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ORIGINAL ARTICLE

Examining the Existence of Synthetic Dyes in the Nuts Offered in Marivan County, West of Iran

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ABSTRACT: These days, making use of synthetic dyes in producing and processing food, such as nuts, is enhancing due to customer attention. Considering that the application of this type of dyes is not permitted in accordance with the current regulations of the country, controlling nut products in terms of dye is required and overriding. In this study, sampling was performed randomly in 10 nut distribution centers at one-week intervals. Samples were tested respecting the type of dye. A Thin-Layer Chromatography (TLC) method was applied to identify the types of dye. After conducting tests on different samples of nuts, it was recognized that different synthetic dyes such as tartrazine, quinoline yellow, and Ponceau 4R were used in the sample nuts. Of the 50 samples tested and analyzed, 23 samples (46%) had non-permitted synthetic dye, and 27 samples (54%) had permitted synthetic dye. The frequency distribution of synthetic dye among different nuts was significantly different. Furthermore, consumption of almond is associated with lower risk of permitted and non-permitted synthetic compared to pistachio ($p< 0.05$). Application of these types of dye, due to their glamorous appearance, will be significantly improved in the future. Therefore, with regard to the high consumption of synthetic dyes in food and their adverse effects on health, it seems that measures like increasing the level of awareness of producers and consumers about the effects of consumption or non-consumption of these compounds as well as continuous monitoring of units by health inspectors are necessary.

INTRODUCTION

Nowadays, synthetic dyes, as additives, are considered among the compounds used in food, voluntarily or involuntarily [1]. The dye of a food product makes the most important expectations about the taste of food in people. The dye of the product must be sustainable during its useful cycle, as the fading dye can make people not being interested [2]. Synthetic dyes are added to food products to make them appealing and compensate for the natural dye change of food products. The dye is conductive in understanding the quality of food and stimulating the desire

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